

Geometry 2

Notes

Vertical angles

Complementary angles

Supplementary angles

Perpendicular lines

Co-interior angles

Alternative interior angles

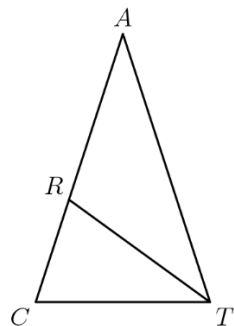
Alternative exterior angles

Corresponding angles

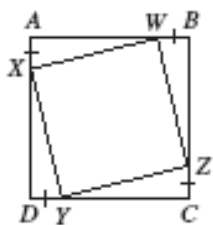
Polygon's exterior angles

Discussion questions

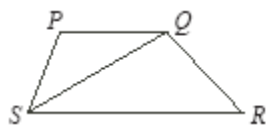
1. Inside the isosceles triangle $\triangle ACT$, line segment RT bisects one of its angles. If angle CRT measures 60° , what is the measurement of the smallest angle inside triangle $\triangle ACT$?



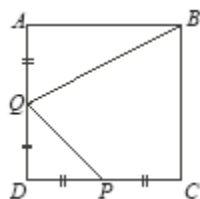
2. The area of square $ABCD$ is 64 and $AX = BW = CZ = DY = 2$. What is the area of square $WXYZ$?



3. Figure $PQRS$ is a trapezoid with an area of 12. RS is twice the length of PQ . What is the area of $\triangle PQS$?

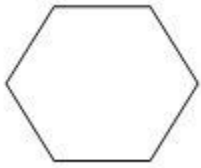


4. In square $ABCD$, P is the midpoint of DC and Q is the midpoint of AD . If the area of the quadrilateral $QBCP$ is 15, what is the area of square $ABCD$?



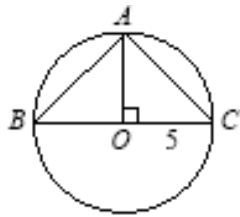
5. Draw a regular hexagon and calculate the measurements of its exterior angle in two different ways.

6. A pillar from Pompeii was found buried in the ground. It had a cross-sectional shape like that shown in the figure. If the area of the cross section is nineteen and seven hundredths square meters, and the pillar was eighteen and eight tenths meters tall, what was the total volume of stone contained in the pillar?



Practice questions

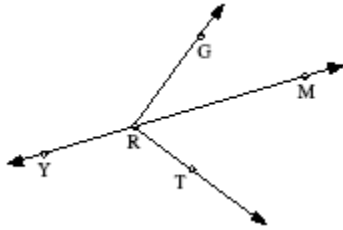
1. BC is a diameter of the circle with center O and radius 5, as shown. If A lies on the circle and AO is perpendicular to BC , what is the area of triangle ABC ?



2. A star is made by overlapping two identical equilateral triangles, as shown. The entire star has an area of 36. What is the area of the shaded region?



3. In the figure below, angles GRM and MRT are complementary. Angles MRT and TRY are supplementary. The measure of angle TRY is 127 degrees. How many degrees are in the measure of angle GRY ?



4. What is the difference between an exterior angle from a regular decagon and a regular heptagon?

5. Two squares, each with side length 5 cm, overlap as shown. The shape of their overlap is a square with an area of 4 cm^2 . What is the perimeter of the shaded figure?

